

CLAIMS

1. A method for securely communicating to a mobile node on a communications system having a home network for the mobile node and at least one foreign network comprising the steps of:
 - establishing at least one security association between the home network and the foreign network;
 - establishing at least one security association between the mobile node and the foreign network;
 - encrypting information in an information packet to be transmitted from the mobile node to the home network;
- 10 transmitting the information packet from the mobile node using the security associations to support secure communications from the mobile node;
 - decoding information from the encrypted information packet at the home network to retrieve the information.
2. The method of securely communicating to a mobile node in Claim 1 further comprising the step of:
 - establishing a security association between the home network and a correspondent node.
3. The method of securely communicating to a mobile node in Claim 1 further comprising the step of:
 - establishing a security association between the mobile node and a correspondent node.
4. The method of securely communicating to a mobile node in Claim 3 further comprising the step of:
 - establishing a security association between the home network and a correspondent node.

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5. The method of securely communicating to a mobile node in
Claim 1 further comprising the step of:
 encrypting information using a public key algorithm.
6. The method of securely communicating to a mobile node in
Claim 1 further comprising the step of:
 encrypting information using a private key algorithm.
7. The method of securely communicating to a mobile node in
Claim 1 further comprising the step of:
 supporting the secure communication for the security
association between the foreign network and the mobile node using
a code-based cellular communication system.
8. The method of securely communicating to a mobile node in
Claim 1 further comprising the step of:
 establishing multiple security associations between a
plurality of foreign networks and the home network.
9. The method of securely communicating to a mobile node in
Claim 8 further comprising the step of:
 establishing a service level agreement to manage the secure
communication of information packets on the multiple security
associations.
10. The method of securely communicating to a mobile node in
Claim 9 further comprising the step of:
 establishing a broker to assist in the use of service level
agreements on the secure communications system.

11. A method for securely communicating to a mobile node on a communications system having a home network for the mobile node and at least one foreign network comprising the steps of:

5 establishing at least one security association between the home network and the mobile node;

encrypting information in an information packet to be transmitted from the mobile node to the home network;

10 transmitting the information packet from the mobile node using the security associations to support secure communications from the mobile node;

decoding information from the encrypted information packet at the home network to retrieve the information.

12. The method of securely communicating to a mobile node in Claim 11 further comprising the step of:

establishing a security association between the home network and a correspondent node.

13. The method of securely communicating to a mobile node in Claim 11 further comprising the step of:

the step of a security association between the mobile node and a correspondent node.

14. The method of securely communicating to a mobile node in Claim 13 further comprising the step of:

establishing a security association between the home network and a correspondent node.

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15. The method of securely communicating to a mobile node in
Claim 11 further comprising the step of:
 encrypting information using a public key algorithm.
16. The method of securely communicating to a mobile node in
Claim 11 further comprising the step of:
 encrypting information using a private key algorithm.
17. The method of securely communicating to a mobile node in
Claim 11 further comprising the step of:
 establishing multiple security associations between a
plurality of foreign networks and the home network.
18. The method of securely communicating to a mobile node in
Claim 17 further comprising the step of:
 establishing a service level agreement to manage the secure
communication of information packets on the multiple security
associations.
19. The method of securely communicating to a mobile node in
Claim 18 further comprising the step of:
 establishing a broker to assist in the use of service level
agreements on the secure communications system.

20. A system for securely communicating to a mobile node in a wireless communications network comprising:

a home network having a home agent coupled to a router capable of directing information packets to and from the home
5 network;

a foreign network having a foreign agent coupled to a router capable of directing information packets to and from the foreign network and a transceiver capable of performing wireless communications with at least one mobile node in the transmission
10 range of the transceiver for the foreign network;

a security association established between the home network and the foreign network and a security association established between the mobile node and the foreign network, both security associations used to support the secure communication of
15 information packets from the mobile node to the home network.

21. The system of securely communicating to a mobile node in Claim 20 further comprising:

a security association between the home network and a correspondent node.

22. The system of securely communicating to a mobile node in Claim 20 further comprising:

a security association between the mobile node and a correspondent node.

23. The system of securely communicating to a mobile node in Claim 22 further comprising:

a security association between the home network and a correspondent node.

24. The system of securely communicating to a mobile node in
Claim 20 further comprising:

a public key encryption means to secure communications.

25. The system of securely communicating to a mobile node in
Claim 20 further comprising:

a private key encryption means to secure communications.

26. The system of securely communicating to a mobile node in
Claim 20 further comprising:

multiple security associations between a plurality of foreign
networks and the home network.

27. The system of securely communicating to a mobile node in
Claim 26 further comprising:

a service level agreement to manage the secure
communication of information packets on the multiple security
associations.

28. The system of securely communicating to a mobile node in
Claim 27 further comprising:

a broker to assist in the use of service level agreements on
the secure communications system.

29. A system for securely communicating to a mobile node in a wireless communications network comprising:

a home network having a home agent coupled to a router capable of directing information packets to and from the home
5 network;

a foreign network having a foreign agent coupled to a router capable of directing information packets to and from the foreign network and a transceiver capable of performing wireless communications with at least one mobile node in the transmission
10 range of the transceiver for the foreign network;

15 a security association established between the home network and the mobile node, the security association used to support the secure communication of information packets from the mobile node to the home network.

30. The system of securely communicating to a mobile node in Claim 29 further comprising:

a security association between the home network and a correspondent node.

31. The system of securely communicating to a mobile node in Claim 29 further comprising:

a security association between the mobile node and a correspondent node.

32. The system of securely communicating to a mobile node in Claim 31 further comprising:

a security association between the home network and a correspondent node.

33. The system of securely communicating to a mobile node in
Claim 29 further comprising:
a public key encryption means to secure communications.

34. The system of securely communicating to a mobile node in
Claim 29 further comprising:
a private key encryption means to secure communications.

35. The system of securely communicating to a mobile node in
Claim 29 further comprising:
multiple security associations between a plurality of foreign
networks and the home network.

36. The system of securely communicating to a mobile node in
Claim 35 further comprising:
a service level agreement to manage the secure
communication of information packets on the multiple security
associations.

37. The system of securely communicating to a mobile node in
Claim 36 further comprising:
a broker to assist in the use of service level agreements on
the secure communications system.